Studies of cambium.—BAILEY,[14] in continuation of his studies of cambium, has considered the size variations of cambial initials in Gymnosperms and Angiosperms, making an extensive reconnaissance through the representatives of these groups, tabulating measurements of 13 species of Gymnosperms and 54 species of Dicotyledons. He finds striking variations in the dimensions of the cells of the cambium and secondary xylem, some of the variations being purely somatic, while others are germinal. He finds that in many plants the dimensions of tracheary cells are determined by those of the cambium initials, while in other plants the dimensions are due to changes during the differentiation of the xylem. He concludes that these fundamental types of size variations and the fluctuations in form and structure are significant in the investigation of certain cytological, morphological, and physiological problems. He calls attention to the fact that the cambium is an unusually favorable medium for the study of problems relating to cell size and body size, the working sphere of the nucleus, the nucleocytoplasmic relation, and phenomena of cytokinesis in somatic tissues.—J. M. C.

Morphology of Larix.—In a study of various stages in the life history of *Larix leptolepis*, Doyle[15] brings out some points of interest. His study of the cavities at the apex of the microsporophyll leads him to conclude that they are homologous with similar cavities in the vegetative leaves, and that they do not represent abortive sporangia. He also suggests that similar cavities in *Ginkgo*, *Torreya*, and other forms may have as little relation to a previous spore-producing function. The microspore, which is wingless, is shed with the stalk and body cells already formed, as in *Abies*. Some of the figures would indicate that the nuclear membrane in the stalk and body cells had been overlooked and only the nucleolus recorded. The amount of variation and the number of peculiar conditions are about what one might anticipate in a thorough study of almost any Gymnosperm. In the ovulate cone there is a gradual transition from vegetative leaves to cone bracts, as in *Pseudotsuga*. The general conclusion is that numerous similarities indicate a distinct natural affinity between *Larix* and *Pseudotsuga*.—C. J. CHAMBERLAIN.

North American Flora.—Parts 5 and 6 of volume 7 include a continuation of Aecidiaceae by ARTHUR and his colleagues, chiefly the genus *Dicaeoma*, under which 269 species are recognized. The following genera are also included: *Pucciniola* (25 spp.), *Allodus* (49 spp.), and *Klebahnia* (8 spp.).—J. M. C.

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[14] BAILEY, I. W., The cambium and its derivative tissues. II. Size variations of cambial initials in Gymnosperms and Angiosperms. Amer. Jour. Bot. **7**:355–367. *figs.* 3. 1920.

[15] DOYLE, J. D., Observations on the morphology of *Larix leptolepis*. Sci. Proc. Roy. Dublin Soc. **15**:310–330. *pls.* 17, 18. 1918.